ABSTRACT

In the case of a valve, in particular a gas exchange valve of an internal combustion engine, valve lifting movements with valve displacement curves should be possible with a control unit in a mechanically simple manner, these curves being composed of a main valve displacement curve, the execution of which may be designed to be variable and at least one variable additional valve displacement curve. The phase relation between the main valve displacement curve and the additional valve displacement curve may also be variable.

To this end, a control unit is provided for operation of at least one valve, in particular a gas exchange valve of an internal combustion engine, in which

- the valve-lifting movement of the at least one valve (6) is generated by superimposing two synchronously rotating cam profiles acting mechanically on a lift operating element (4), namely a first cam profile (1) and a second cam profile (2) and this valve-lifting movement can be varied by phase displacement between these two cam profiles (1, 2) and
- the two cam profiles (1, 2) have specially shaped areas by means of which, when superimposed to form one of the two cam profiles (1, 2), at least one additional valve displacement (ZV) can be generated on the whole in addition to a main valve displacement movement (HV) over a full revolution of each of these cam profiles (1, 2), whereby at least this one additional valve displacement curve (ZV) is variable in shape and assignment to the main valve displacement curve (HV) by phase displacement between the two cam profiles (1, 2).

(Figure 2)

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